Annual Academic Assessment Report
B.A. Psychological Science
September 3, 2023

On March 2, 2015, the Department of Psychological Science adopted a plan for the assessment of the undergraduate curriculum in Psychological Science. The Department identified five major measurable goals that would be evaluated by means of this assessment. These goals were based on recommendations by the American Psychological Association in its publication *APA Guidelines for the Undergraduate Psychology Major.*[1]

> **1. Knowledge Base:** Demonstrate knowledge of core areas of psychological science as well as the ability to interpret and apply knowledge of psychological science
> **2. Scientific Literacy and Critical Thinking:** Demonstrate the ability to reason scientifically, understand scientific research, understand basic statistics relevant to behavioral sciences and think critically.
> **3. Ethical and Social Responsibility in a Diverse World:** Demonstrate a basic understanding of ethical principles as they apply to psychological research and practice.
> **4. Communication:** Demonstrate an ability to communicate effectively in written and oral presentations.
> **5. Professional Development:** Demonstrate the ability to apply skills learned to enhance teamwork, career preparation, and manage projects in a work or educational environment.

The Assessment plan called for measuring these goals annually using a combination of direct and indirect methods and for providing a report of findings to the faculty of the Department of Psychological Science and to the Dean of Fulbright College. Data collection for this assessment was carried out starting on the 10th week of the Spring Semester of 2016 and continued until the end of the Semester. This report provides the findings of these assessment efforts.

Assessment of Goals

Goal 1. Knowledge Base

The first goal identified by the Department concerns ensuring that students have a broad understanding of the knowledge base of Psychological Science. We used two measures to assess this goal.

Psychology Print Exposure Measure[2]

Sample: Fifty-five graduating senior Psychological Science majors, taking Advanced Research or Advanced Seminar, completed this measure.

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[1] APA Board of Educational Affairs Task Force on Psychology Major Competencies (2012). APA Guidelines for the Undergraduate Psychology Major (Version 2.0). American Psychological Association: Washington D.C.
[2] Smith, D. L., & Barker, L. (2008). Using yes-no recognition tests to assess student memory for course content. Teaching Of Psychology, 35(4), 319-326.

Description: The Psychology Print Exposure (PPE) measure provides students with 50 terms taken from psychology classes (e.g., cognitive dissonance) as well as 50 psychological-sounding foil terms (e.g., proactive sufferance). Students are asked whether these are real psychological terms. Research shows that students with no psychological training score near chance and that performance on this simple 'yes-no' measure strongly correlates with course grades and final exam performance, r's > .68.

Desired Level of Performance: Our goal was that 80% of graduating seniors would obtain scores of 70% or better on this assessment. Seventy-percent correct is considered 'proficient' by the test authors. Additionally, our goal was that graduating seniors and would significantly outperform students in General Psychology

Results. Mean percent correct was 67.69%, which is slightly lower than the standard for proficient performance. Overall, only 41% of graduating seniors scored at the proficient level. This is substantially lower than our goal of 80% of graduating seniors obtaining proficient performance and lower than we have observed in prior years. It may be that this lower level of performance reflects a decrement following the COVID-19 Pandemic. It will be important in future years to closely monitor this drop in performance to see if it reboubds.

Exit Interview

Sample: All graduating seniors were asked to complete an online exit interview. This measure was completed by 85 graduating seniors.

Description: As part of a formal online exit interview, students were asked to answer a set of questions concerning the degree to which they believed that the classes and experiences they had as part of obtaining a degree in psychological science provided them with knowledge of core areas in psychology. Items were presented in the form of statements. For each student, some items were positively framed (e.g., "My classes and experiences as a major in psychological science have prepared me to understand applications of psychology to the real world.") and some were negatively framed (e.g., "My classes and experiences as a major in psychological science failed to prepare me to understand applications of psychology to the real world.")." For each statement students rated their degree of agreement on a 5 point scale ranging from 'strongly disagree' to 'strongly agree.' For positively frame items, responses were coded such that 'strongly disagree' = 1, 'disagree' = 2, 'neither agree nor disagree' = 3, 'agree' = 4, and 'strongly agree' = 5. Negatively framed questions were reverse scored (i.e., a rating of 1 was transformed into a rating of 5, a rating of 2 was transformed into a rating of 4, and so on).

Desired Level of Performance: Our goal was that at least 75% of students would provide ratings of 4 or 5 to each item.

Results: Results of the Exit Interview questions dealing with the core knowledge goal are shown in Table 1. Results are for both positively and negatively framed items, but for ease of exposition, only the positively framed version of the item is shown. As can be seen, well over 75% of the graduating seniors agreed that the undergraduate program in Psychological Science

did a good job (rating of 4 or 5) in providing them with content knowledge of Psychological Science.

Table 1. Exit Interview Questions Concerning Goal 1.

Item	Percent of Students Providing Rating of 4 or 5	Mean (SD)
- ... prepared me to describe key concepts, principles, and overarching themes in psychology	92.94	4.36(0.83)
- ... provided me with a working knowledge of psychology's key content domains	92.94	4.39(0.73)
- ... provided me with an understanding of applications of psychology	92.94	4.35(0.83)

Conclusions

In the online exit interview, graduating seniors strongly agreed that their degree in Psychological Science has provided them with a firm grasp of the core content knowledge in Psychology. Knowledge of psychological constructs, as measured by the PPE, was substantially lower than in prior years. This may reflect a decrement arising out of the COVID-19 pandemic. Performance in subsequent years will need to be monitored carefully.

Goal 2. Scientific Literacy and Critical Thinking

The second goal identified by the Department concerns ensuring that students can demonstrate the ability to reason scientifically, understand scientific research, understand the basics of statistics relevant to behavioral sciences and think critically. We used two measures to assess this goal as described below.

Research Methods and Statistical Knowledge Concept Inventory[3]

Sample: The measure was given to 55 graduating seniors in Advanced Research/Advanced Seminar.

Description: This measure presents students with a series of vignettes depicting research scenarios and multiple choice questions asking about conclusions that can be drawn about each situation. These vignettes and questions address topics at the heart of research methodology and statistics taught in undergraduate psychology courses, including replication, experimenter bias, operational definitions of variables, correlation, reliability and validity, random assignment, experimental design, confounds, interaction effects, limits to generalizability, and interpretation

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[3] Veilleux, J. C., & Chapman, K. M. (2017). Validation of the Psychological Research Inventory of Concepts: An index of research and statistical literacy. *Teaching of Psychology*, *44*(3), 212-221.

of statistical findings. To correctly answer each question, students must truly understand the concept, as the foils present empirically derived wrong-answers.

Desired Level of Performance: Our goal was that 70% of graduating seniors in capstone courses (Advanced Seminar and Advanced Research) would achieve 70% or above on this measure.

Results: Students in the Advanced courses obtained a mean score of 53.63, SD = 18.07. This is lower than in prior semesters. Only approximately 20% of students exceeded our goal of 70% performance, however, approximately half of students achieved 60% performance or better.

Exit Interview
Sample: As noted above 85 graduating seniors completed the exit interview.

Description: The online exit interview included five questions concerning the degree to which their degree provided them with mastery of methodology and statistical concepts. These items were scored as described above.

Desired Level of Performance: Our goal is that 75% of students would provide ratings of 4 or 5 (as described above).

Results: Results of the exit interview questions dealing with the research methods goal are shown in Table 2. Well over 75% of the graduating seniors responding believed that the undergraduate program in Psychological Science did a good job (i.e., moderately or strongly agreed) in teaching critical thinking, scientific literacy and methodological competence.

Table 2. Exit Interview Questions Concerning Goal 2.

Item	Percent of Students Providing Rating of 4 or 5	Mean (SD)
- … gave me the ability to use scientific reasoning to interpret psychological phenomena	90.59	4.33(0.76)
- … increased my psychology information literacy	95.29	4.62(0.74)
- … gave me the ability to engage in innovative and integrative thinking and problem solving	85.88	4.24(0.87)
- … gave me the ability to interpret, design, and conduct basic psychological research	88.24	4.27(0.97)
- … gave me the ability to incorporate sociocultural factors in scientific inquiry	87.06	4.24(0.83)

Conclusions

Graduating seniors overwhelmingly believed that obtaining a B.A. in Psychological Science helped improved their ability to reason scientifically and to think critically. Results of a standardized measure of methodological and statistical competency fell compared to prior years. Results fell short of our goal that 70% of students would receive a score of 70% or great, however, a substantial percent scored 60% or better.

Goal 3. Ethical and Social Responsibility in a Diverse World

The third goal of the Department was for graduating senior psychological science majors to demonstrate a basic understanding of ethical principles as they apply to psychological research and practice. We assessed this goal in two ways: 1) performance of undergraduate students on a mandatory ethics tutorial and exam, and 2) a set of ethics questions included in an exit interview for graduating seniors. Results from these assessments are summarized below.

Research Ethics Tutorial

Description: We examined archival records of students who had completed the Department's online ethics tutorial and compared those records to a list of graduating seniors. The tutorial is designed such that students complete a final exam at the end of the tutorial. Students are required to take and pass this tutorial if they are involved in research in any way. Students are considered to have successfully passed the tutorial only if they achieve a score of 100%. Students are allowed to take the tutorial as many times as needed in order to meet this criterion.

Desired Level of Performance: Our goal was that at least 50% of all graduating seniors will have successfully completed the ethics tutorial, with 80% of those students obtaining a score of 100% on the first try.

Results: Our examination revealed that 70.01% of graduating senior Psychological Science majors had successfully completed the online ethics tutorial and the accompanying test. The vast majority of these students (78.42%) scored 100% on their first attempt on the tutorial.

Exit Interview

As described previously, a formal online exit interview was given to a sample of graduating seniors. A component of this exit interview was a set of questions designed to assess the degree to which their classes and experiences provided them with adequate training and experience in research ethics and social responsibility. Four such ethics items were presented in on the exit interview (Table 3). Details regarding the scoring and framing of these items is described in a previous section of this document. The percentage of graduating seniors providing a rating of 4 or 5 for ethics items on the exit interview is summarized in Table 3. All items met the specified departmental goal of 75% agreeing or strongly agreeing.

Table 3. Exit Interview Questions Concerning Goal 3.

Item	Percent of Students Providing Rating of 4 or 5	Mean (SD)
- ... provided me with the ability to apply ethical standards to evaluate psychological science and practice	95.29	4.59(0.66)
- ... helped me learn how to build and enhance interpersonal relationships	77.65	4.01(0.97)
- ... helped me to adopt values that build communities at local, national and global levels	72.94	3.99(0.98)
- ...helped me to respect the values of others who are different from me	95.29	4.58(0.71)

Conclusions

Graduating seniors strongly agreed that obtaining their degree in Psychological Science improved their ability to apply ethical principles to research and practice and increased their respect for diversity. More than 75% of our graduates had successfully completed an online research ethics tutorial with a score of 100%. Most successfully passed the ethics test on their first try.

Goal 4. Communication

The fourth goal identified by the Department concerns improving student's communication skills. We used two measures to assess this goal.

Honors Theses

We examined the results of honors theses submitted by students in the Department of Psychological Science. A total of 26 students were awarded honors in our department in the current academic year. Each honors thesis is graded by the student's committee on a 9 point scale. Our goal was that at least 70% of psychological science honors students would obtain a thesis score of 5 or higher on their thesis defense. Additionally, students can be awarded honors cum laude, magna cum laude, or summa cum laude. Our goal was that 50% of psychological science students receiving honors would obtain magna cum laude or higher. Most of our students (92.31%) obtained a defense score of 5.0 or higher. The mean defense score was 6.71 (SD = 1.49). Most students received a score of either Magna Cum Laude (46.15%) or Summa Cum Laude (26.92%).

Exit Interview

Three exit interview questions concerned the degree to which students believed that they developed communication skills in our program. Results of the Exit Interview questions dealing

with the communication are shown in Table 4. As can be seen, well over 75% of the graduating seniors responding agreed that the undergraduate program in Psychological Science did a good job (i.e., rating of 4 or 5) in helping them to improve their writing skills and skills interacting with others. We fell short of our goal of 75% agreeing or strongly agreeing with the statement that the undergraduate program improved their oral presentation skills. This lower rating for developing oral presentation skills is a recurring problem in our assessment outcomes.

Table 4. Exit Interview Questions Concerning Goal 4.

Item	Percent of Students Providing Rating of 4 or 5	Mean (SD)
- ... helped me to improve my writing skills	88.24	4.39(0.79)
- ... helped me to improve my oral presentation skills	60	3.67(1.13)
- ... helped me to improve my ability to interact effectively with others	82.35	4.12(0.99)

Conclusions

Graduating senior Psychological Science majors generally agreed that the degree improved their communication skills. More than 75% of students agreed that the program improved their writing and interpersonal communication skills. A majority of graduating seniors indicated that the degree improved their oral communication skills, however, the percentage agreeing (60%) was lower than our goal of 75%. Students in our Honors program are successfully defending their Honors thesis and receiving scores, on average, above our aspirational goal of 5 and more than 50% of Honors students are graduating Magna or Summa Cum Laude.

Goal 5. Professional Development

The fifth and final goal of the Departmental undergraduate assessment was to determine if advanced undergraduate students (specifically, graduating students) demonstrate the ability to apply skills learned to enhance teamwork, career preparation, and manage projects in a work or educational environment. Out original assessment plan included measuring this goal using the Teamwork KSA (knowledge, skills and attitudes; Stevens & Campion, 1999. We discovered that this scale is no longer available from the publisher. Our Assessment Committee is currently exploring an alternate measure. For this reason, we do not report results from the Teamwork KSA this year.. We examined graduating seniors' responses to questions concerning their post-graduate plans on an exit interview. We also examined how they responded to questions asking about the degree to which their classes and experiences in the department contributed to their professional development. The results of these assessments are summarized below.

Exit Interview

Description: To better assess professional development, the exit interview included questions about post-graduate plans, whether the student had a job lined up, whether the student had been accepted to graduate school, medical school, law school, etc. Additionally, graduating seniors were asked to answer a set of questions concerning the degree to which they believe the classes and experiences aided in their professional development. These items were scored as described above.

Desired Level of Performance: Our goal is that 75% of students will respond 'agree' or 'strongly agree' to the positively worded questions and 75% of students will respond 'disagree' or 'strongly disagree' to the negatively worded questions.

Results: We did not fully meet our goal regarding seniors' responses to professional development questions on the exit interview. For three of the five exit interview questions related to professional development (see Table 5), students responded with a rating of 4 or 5 less than 75% of the time. It is noteworthy, however, that in the previous year none of the five exit interview questions concerning professional development met the 75% threshold. The curriculum revision we are currently planning has elements specifically designed to address professional development needs of our students.

Table 5. Exit Interview Questions Concerning Goal 5.

Item	Percent of Students Providing Rating of 4 or 5	Mean (SD)
- ... helped me to apply my new knowledge and skills to my career goals	74.12	3.89(1.12)
- .. helped me to improve my self-efficacy and self-regulation skills	82.35	4.16(0.88)
- ... helped me to improve my project management skills	75.29	3.98(1)
- ... helped me to improve my teamwork	68.24	3.79(0.98)
- ... helped me to develop meaningful professional direction for life after graduation	60	3.68(1.15)

During the exit interview, we asked graduating seniors about their post-graduate plans. Table 6 shows the outcome of this question.

Table 6. Post-Graduate Plans of Graduating Seniors in Psychological Science.

	Percent
Professional School (e.g., Medical School, Law School, etc.)	18.52
Grad School PSYC (Masters)	18.52
Grad School PSYC (Ph.D. or Psy.D.)	11.11
Grad School Other Discipline	24.69
Employment in Psychology Related Field	12.35
Employment in Field Unrelated to Psychology	6.17
Other	8.64

Somewhat over 1/3 of our students plan on going to graduate school in psychology with about another ¼ planning on going to graduate school in some other discipline. About 1 in 5 students plan on attending a professional school such as medical school or law school and about 20% plan to immediately enter the workforce. About ½ (54%) of those who say they are planning on going to graduate or professional school indicated that they had already been accepted to a program. These results show that it is important for our Department to continue to prepare students for diverse career paths.

Conclusions

A majority of our students intend to attend graduate or professional schools and a substantial proportion of these students had already been accepted into a program, with most achieving their first choice. Students also had a good deal of success directly entering the workforce. Exit interview questions also tended to support the view that the department did a good job developing these skills in students, although there is some room for improvement with regards to helping students with post-graduation plans and developing teamwork abilities.

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Conclusions and Recommendations

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The undergraduate assessment plan adopted by the Department of Psychological Science calls for the annual assessment of the undergraduate program and that the results of the assessment be reported annually to the Department and to the Dean of Fulbright College. As part of the action plan adopted by the Department, each Fall following the assessment the Undergraduate Curriculum Committee, in conjunction with the Undergraduate Assessment Committee, will review the results of the assessment and make recommendations for any needed curriculum changes based on the results of the assessment.

The results of the present assessment suggest that the Undergraduate Curriculum and Undergraduate Assessment Committees should consider addressing the following issues in particular. Because of the process outlined in the assessment plan, we withhold making specific recommendations for change – leaving that instead to the appropriate committees and the Department as a whole. Instead we simply highlight important findings that the Department should address.

Program Strengths

The Department of Psychological Science is highly regarded by graduating seniors. The general pattern to emerge from this assessment is that the Department received high ratings in terms of providing students with (1) Knowledge of Core Psychological Concepts, (2) Knowledge of Scientific Reasoning and Critical Thinking, (3) Understanding of Ethics as it Applies to Research, Practice and Diversity, (4) Written and Interpersonal Communication Skills, and (5) Professional Development.

Program Weaknesses

Although the program review generally indicated that the undergraduate program in psychological science is strong and vibrant, there were some areas where we fell short of our goals. The faculty should consider ways of addressing these issues.

Student performance in terms of knowledge of psychological concepts and research literacy has fallen somewhat in recent years on our objective measures of performance. This might reflect a general lag in performance that is a consequence of the disruption occurring out of the COVID-19 Pandemic. If so, we should see performance begin to improve in the coming years. Despite this decrement students generally are satisfied with what they have learned in these areas.

With regards to knowledge of research methodology, statistics and critical thinking, our graduates significantly outperformed General Psychology students, suggesting that our students have learned a great deal about these topics during the time in our program. Additionally, students generally

believed that they had learned a great deal about these topics. However, on our objective measure of knowledge of research methods and statistics, the *Research Methods and Statistical Concept Inventory,* we did not reach our goal of 70% of students scoring 70% or better. A much larger percentage of students scored 60% or better. This pattern replicates what we found during last year's assessment of the undergraduate program. This suggests that there is some room for improvement in teaching of research methodology and statistics.

The ratings of professional development are mixed. On some measures our exit interview indicates that students are generally happy with the program. But in terms of preparing students for post-graduation plans and developing teamwork skills, room for improvement exists. It is notable that our curriculum revision specifically includes implementation of a class related to professional development.. Although the exit interview indicated that many students who had applied to graduate and professional schools had attained guidance from faculty mentors in this process, such guidance was largely informal and not part of the curriculum per se. Although students largely provided high ratings to the program for improving their communication skills, and although the objective measures of communication skills of our graduates were largely laudable, there were also some weaknesses identified. Specifically, oral communication received lower ratings from our students than written communication.

Conclusions

Psychological Science remains a strong program which is highly rated by its students. The faculty are to be commended on the exceptional job that they are doing in fostering outstanding undergraduate education in psychological science even under difficult circumstances.